



Deck Permit Application Packet

These instructions are for one-floor uncovered decks serving the first or second level of a one or two family dwelling.

Application form is on last page of packet.

Checklist

All plans must be drawn to scale in black or blue ink with scale noted on plan.

Do not use pencil.

Clearly designate proposed work and existing conditions.

Provide complete structural information.

Two copies of each sheet required.

Submit the Deck Application Form fully and accurately completed



Site Plan

Indicating

- Legal description and north arrow
- All existing structures
- Dimensions of lot
- Distance from proposed deck to property lines



Plan view

Indicating

- Dimensions
- Joist beam and footing size and spacing
- Wood species and grade
- Guardrail location, height and baluster spacing

Permits will not be issued without a complete application packet



Permit requirement

Required for decks attached to a structure or any deck more than 30 inches above grade. Application and submittal requirements available in the Building Safety Office, Room 210, City Hall.

Setback requirements

Always site specific. Check with Building Safety Division for your project.

Decking material

Heartwood or sapwood from redwood, cedar or other decay and termite resistant wood or treated wood is required. Use 1" decking if joists are at 16" o.c. or less. Use 2" if joists are more than 16" o.c.

Wood

Exposed wood must be of heartwood or sapwood from redwood, cedar or other decay and termite resistant wood or treated wood.

Pressure-Treated Wood

Recent changes have been made in the chemicals used in the manufacture of pressure-treated wood. Chromated copper arsenate, also known as CCA, is being phased out and the most common new treatments approved for outdoor use are Alkaline Copper Quaternary (ACQ) and Copper Azole. According to the lumber and fastener industry, the newer chemicals being used to treat the wood approved for outdoor use are considerably more corrosive than those previously treated with CCA and therefore require special fasteners, hangers, and greater care in the selection of materials that may come in contact with the wood. The fastener industry has indicated that some of the hangers and fasteners currently on the market may not perform with some of the new treatments.

Ledger

Same size as joists. Install lag screws that penetrate 1-1/2" minimum into rim joist or wall studs. A minimum of two 3/8 inch lag screws every 16 inches. Joist hangers must be correct size for joist size used. Connections between deck and dwelling shall be weatherproof. Cuts in exterior finish shall be flashed.

Joists

See JOIST SPAN table for minimum joist size and spacing requirements. Ask your lumber supplier about species and grade.

Beams

See BEAM AND FOOTING SIZES table for beam size and spacing requirements. Any splices in beam must be over a support. Beams of 2 or more members shall be nailed together with 2 rows of 16d nails at 16" o.c. . Ask your lumber supplier about wood species and grade.

Post size

3-1/2 inch minimum, depending on method of beam connection.

Cantilevers

Joists should not overhang beams by more than 2 feet, nor should beams over hang joists by more than 1 foot unless a special design is approved.

Footings

See BEAM AND FOOTING SIZES table for footing size and spacing requirements. Minimum thickness of footing pad is 8 inches but thicker required for larger footings (see chart). Minimum depth to bottom of footing is 5 feet. Reinforcing of footing pad may be recommended.

Columns (piers, pilasters)

Minimum diameter is 8 inches. Post connection by pin or approved fastener. Reinforcing may be recommended.

Guardrails

Required where deck floor height above grade is 30 inches or more. Minimum guardrail height for decks accessory to one or two family dwellings is 36 inches. Minimum guardrail height for decks accessory to other dwellings is 42 inches. Distance between bottom of guardrail and deck floor must be less than 4 inches. Where guardrail is adjacent to a stair, a sphere 6 inches in diameter may not pass through the triangular opening created by the guardrail, riser and tread. Balusters must be spaced less than 4 inches apart except at stair treads may be less than 4-3/8" apart.

Handrails

At least one handrail is required where stairs have more than 3 risers. Height must be 34 to 38 inches above the nosing of the tread. Ends must be returned or terminate in posts. Handgrips shall be between 1-1/4 and 2 inches in cross section or have an equivalent gripping surface and shall have a smooth surface with no sharp corners.

Stair width

Minimum 36 inches.

Riser height

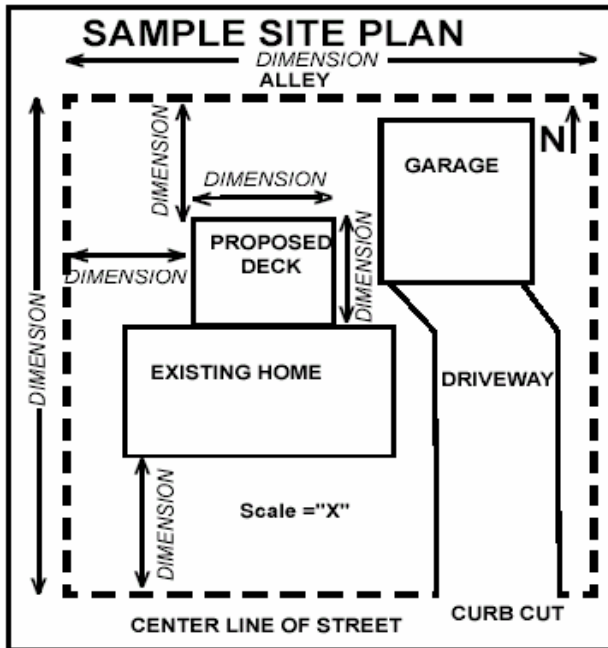
Maximum 7 3/4" inches for stairs accessory to one or two family dwellings. MN SBC requirements address other dwellings. Openings in risers between treads shall be less than 4 inches.

Tread width

Minimum 10 inches for stairs accessory to one or two family dwellings. MN SBC requirements address other dwellings.

Landing size

Minimum 3 feet x 3 feet required at egress door and bottom of stair. Where required, landing may not be more than 7-3/4 inches below top of threshold.

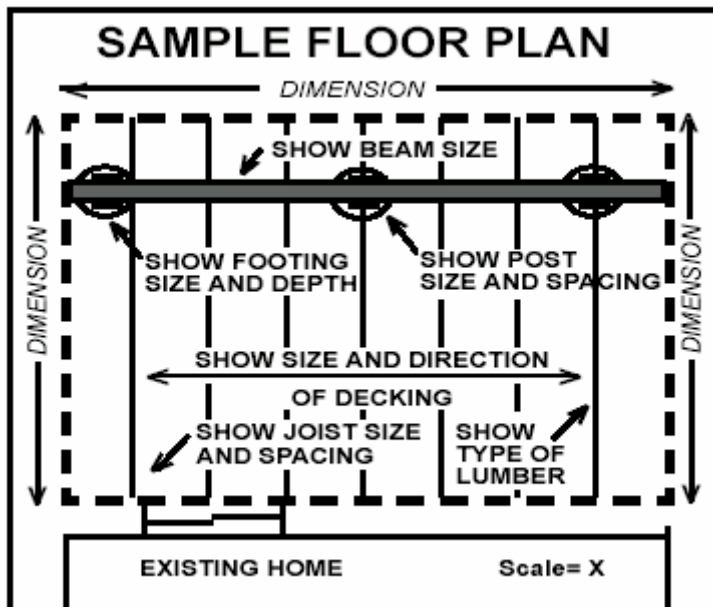
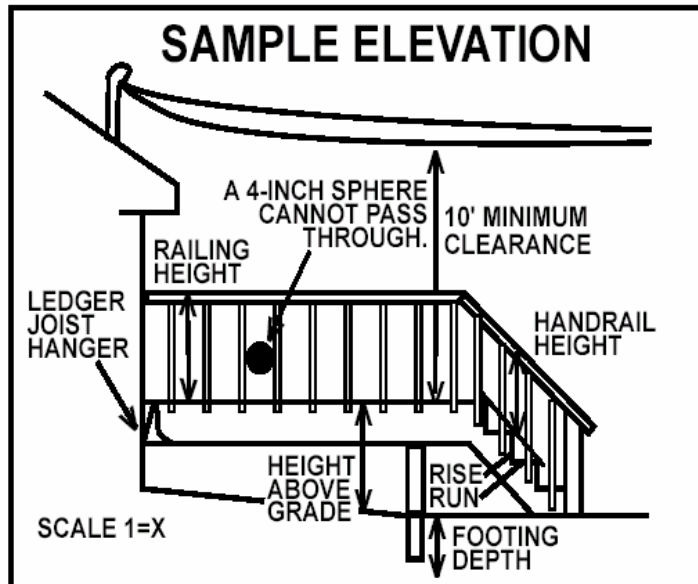


PLANS: SITE, FLOOR, and ELEVATION

The following text and sample drawings show the minimum detail expected so the permit process can proceed smoothly. **TWO sets of each plan are required.** Plans do not need to be professionally drawn. However, plans should include all of the information requested. The application for permit can be filled out at the time you drop off your plans. **Certificate of Survey or Site Plan** drawn to scale indicating the lot dimensions, the location and size of the existing structure(s), and the location and a size of the proposed structure. Indicate the setbacks from property lines of the existing and proposed structure(s), including septic system area and wells if applicable.

ELEVATION PLAN

1. Height of structure from grade.
2. Size and depth of footings.
3. Guard height and spacing (if any).
4. Stairway rise/run and handrail height (if any).
5. Clearance of over-head wires (if applicable).



FLOOR PLAN

1. Proposed deck size.
2. Size and spacing of floor joists.
3. Size and type of decking material.
4. Size, type, location, and spacing of posts.
5. Size and type of beams.



Approved Decking Materials

WOOD DECKING MATERIALS ALLOWED BY MINNESOTA STATE BUILDING CODE

Naturally decay and termite resistant wood species such as:

Redwood and Cedar

Treated Wood

NATURALLY DECAY RESISTENT WOODS ALLOWED AS ALTERNATE MATERIALS BY THE BUILDING OFFICIAL

Douglas Fir heartwood

Lodgepole Pine heartwood

Redwood heartwood and sapwood

Western Red Cedar heartwood

White Oak sapwood and heartwood

Western White Pine heartwood

Red Oak sapwood and heartwood

Eucalyptus heartwood

Ponderosa Pine heartwood

APPROVED COMPOSITE DECKING MATERIALS

Composite decking material is not addressed in the Building Code. It is allowed as an alternative material only when the building official finds that the material is, for the purpose intended, at least the equivalent of that [material] prescribed [by the code]. (MSBC 1300.0110 Subp. 13) The building official evaluates composite decking products on a product by product basis to determine their equivalence with prescribed materials and other code requirements applicable to decking. ICC Evaluation Services provides reports about products that have been tested and evaluated specifically for compliance with the building code.

The following composite decking products have been approved for use in Duluth:

CORRECTDECK NER-688

CERTAINTED KINGSTON, OXFORD AND CAMBRIDGE RAILING SYSTEMS ESR-1555 AND NER 605

CERTAINTED PVC DECK PLANKS NER-605

ENDURA BOARD ESR-1890

EON DECKING ESR-1300

EPOCH EVERGRAIN DECKING (Manufactured by ECP in Lamar MO NOT Epoch Decking) ESR-1625

FIBERON ICC-ES 22-41

GEODECK

LIFE LONG COMPOSITE ICC-ES 1278 & 1279

MONARCH DECKING ESR-1084

OASIS DECK AND RAIL ESR-1425

PROFECTION DECK BOARDS & PRO PERFECT DECKING ICC-ES 22-41

RHINO ICBO ER 6134

TIMBER TECH DECKING ICC ES-2325, ESR-1400

TREX COMPOSITE LUMBER ICBO ER 5747

ULTRADECK (Manufactured by MME in Eau Claire WI *NOT* Ultra-Dek) ESR-1674

VEKADECK ESR-1469

VERANDA DECK BOARDS ICC-ES 22-41

WEATHERBEST ICC ESR 1088 (Special stair requirements)

XTENDEX NER-695

The product supplier or manufacturer can tell you whether an ICC Evaluation report is available for other products.

Approval of alternate materials must be by the Building Official.

Beam and Footing Sizes for Decks

Design wood is Southern Pine No. 2, must be treated			Post Spacing										
			4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
Joist Length	6'	Beam size	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10
		Corner Footing	6	7	7	8	9	9	10	10	10	11	11
		Intermediate	9	10	10	11	12	13	14	14	15	15	16
	7'	Beam size	1-2x6	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x10	2-2x12
		Corner Footing	7	7	8	9	9	10	10	11	11	12	12
		Intermediate	9	10	11	12	13	14	15	15	16	17	17
	8'	Beam size	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12
		Corner Footing	7	8	9	9	10	10	11	11	12	13	13
		Intermediate	10	11	12	13	14	15	16	16	17	18	18
	9'	Beam size	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10
		Corner Footing	7	8	9	10	10	11	12	12	13	13	14
		Intermediate	10	12	13	14	15	16	17	17	18	19	20
	10'	Beam size	1-2x6	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x10
		Corner Footing	8	9	10	10	11	12	12	13	14	14	15
		Intermediate	11	12	14	15	16	17	17	18	19	20	21
	11'	Beam size	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12
		Corner Footing	8	9	10	11	12	12	13	14	14	15	15
		Intermediate	12	13	14	15	16	17	17	18	19	20	21
	12'	Beam size	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x10	3-2x12
		Corner Footing	9	10	10	11	12	13	14	14	15	15	16
		Intermediate	12	14	15	16	17	18	19	20	21	22	23
	13'	Beam size	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12
		Corner Footing	9	10	11	12	13	13	14	15	15	16	17
		Intermediate	13	14	15	17	18	19	20	21	22	23	24
	14'	Beam size	1-2x6	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x10	2-2x12	3-2x10	3-2x12	3-2x12
		Corner Footing	9	10	11	12	13	14	15	15	16	17	17
		Intermediate	13	15	16	17	18	20	21	22	23	24	24
	15'	Beam size	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	Eng
		Corner Footing	10	11	12	13	14	14	15	16	17	17	18
		Intermediate	14	15	17	18	19	20	21	22	23	24	25
	16'	Beam size	2-2x6	2-2x6	2-2x8	2-2x8	2-2x10	2-2x12	2-2x12	3-2x10	3-2x12	3-2x12	Eng
		Corner Footing	10	11	12	13	14	15	16	16	17	18	18
		Intermediate	14	15	17	18	20	21	22	23	24	25	26

Minimum footing thickness is 8" unless shaded:

Denotes minimum 10" thick footing

Denotes minimum 12" thick footing

Footing pad sizes are for diameter in inches.

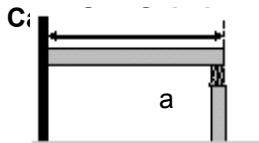
Minimum depth to bottom of footing = 60"

JOIST SPAN

Based on No. 2 or better wood grades.

(Design Load = 40#LL + 10#DL, Deflection= L/360)

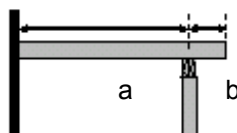
	Ponderosa Pine			Southern Pine			Western Cedar		
	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC
2X6	9-2	8-4	7-0	10-9	9-9	8-6	9-2	8-4	7-3
2X8	12-1	10-10	8-10	14-2	12-10	11-0	12-1	11-0	9-2
2X10	15-4	13-3	10-10	18-0	16-1	13-5	15-5	13-9	11-3
2X12	17-9	15-5	12-7	21-9	19-0	15-4	18-5	16-0	13-0



Refer to tables for joist, beam and footing size requirements. Example: a = 12'; Post spacing = 8'

Use the joist span table to find the acceptable joist sizes for a 12' span, 2x8s at 12" O.C., 2x10s at 16" O.C. or 2x12s at 24" O.C. Use the Beam and footing sizes table and find the 8' post spacing column. With a 12' deck span, the beam may be either two 2x8s or two 2x10s, depending on wood used. Depending on the type of soil, the footing diameter at the base must be a minimum of 12", 10" or 9" for the corner post and 17", 14" or 12" for all intermediate posts.

Case Two Solution



Use "a" to determine joist size and "a" + "b" to determine beam and footing sizes. The length of "b" is restricted by both the length of "a" and the size of the joists. Example: a = 8', b = 2', Post spacing = 10' Refer to the joist span table. For an 8' joist span, either 2x8s at 24" O.C. or 2x6s at 16" O.C. are acceptable.

For sizing the beam, use a joist length of 12' (8' + 4') and a post spacing of 10'. The beam and footing sizes table indicates that the beam may be either two 2x10s or two 2x12s, depending on wood used. Depending on the type of soil, the footing diameter at the base must be a minimum of 15", 12" or 11" for the corner post and 20", 17" or 15" for all intermediate posts.



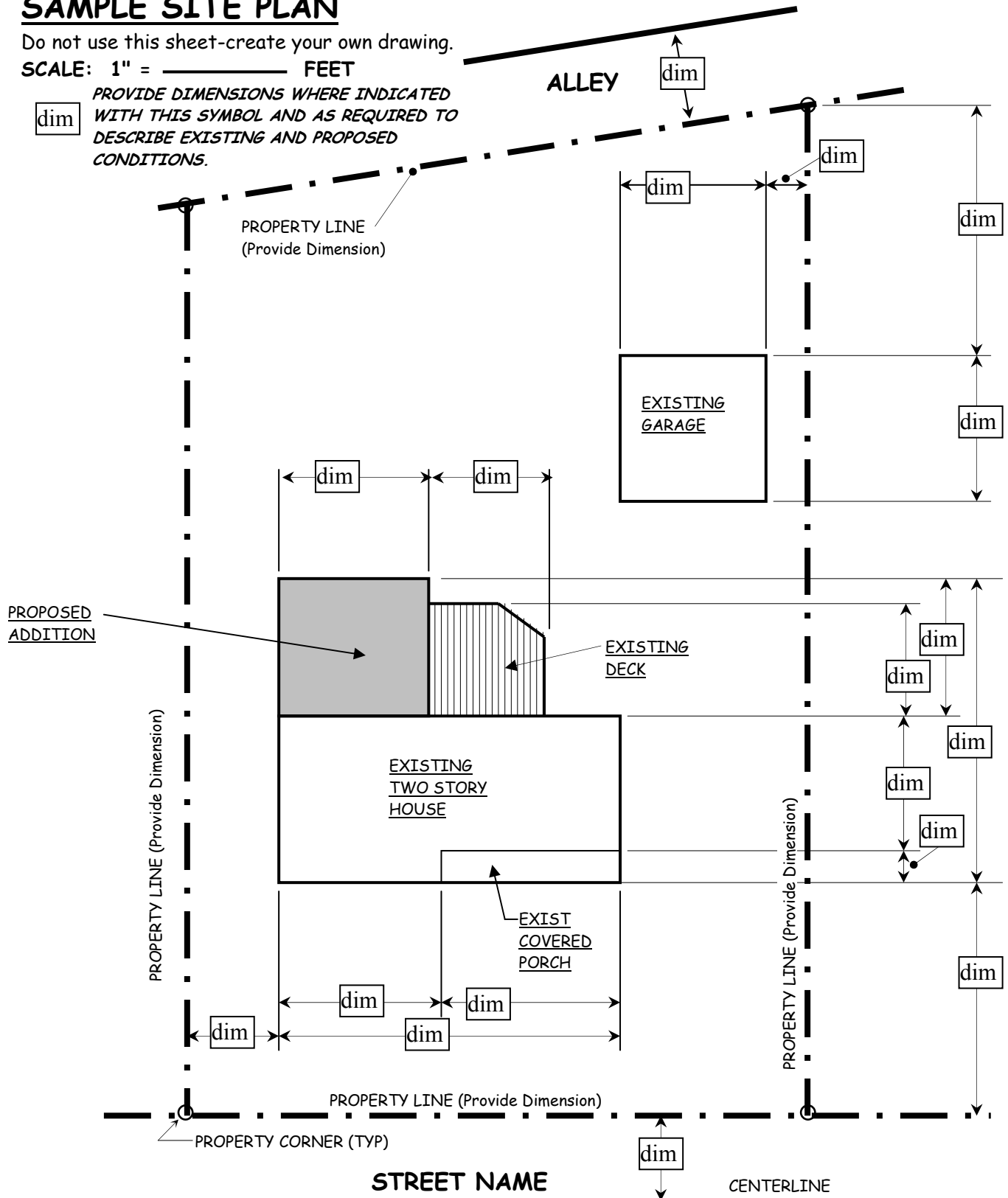
SAMPLE SITE PLAN

Do not use this sheet-create your own drawing.

SCALE: 1" = _____ FEET

dim

PROVIDE DIMENSIONS WHERE INDICATED
WITH THIS SYMBOL AND AS REQUIRED TO
DESCRIBE EXISTING AND PROPOSED
CONDITIONS.

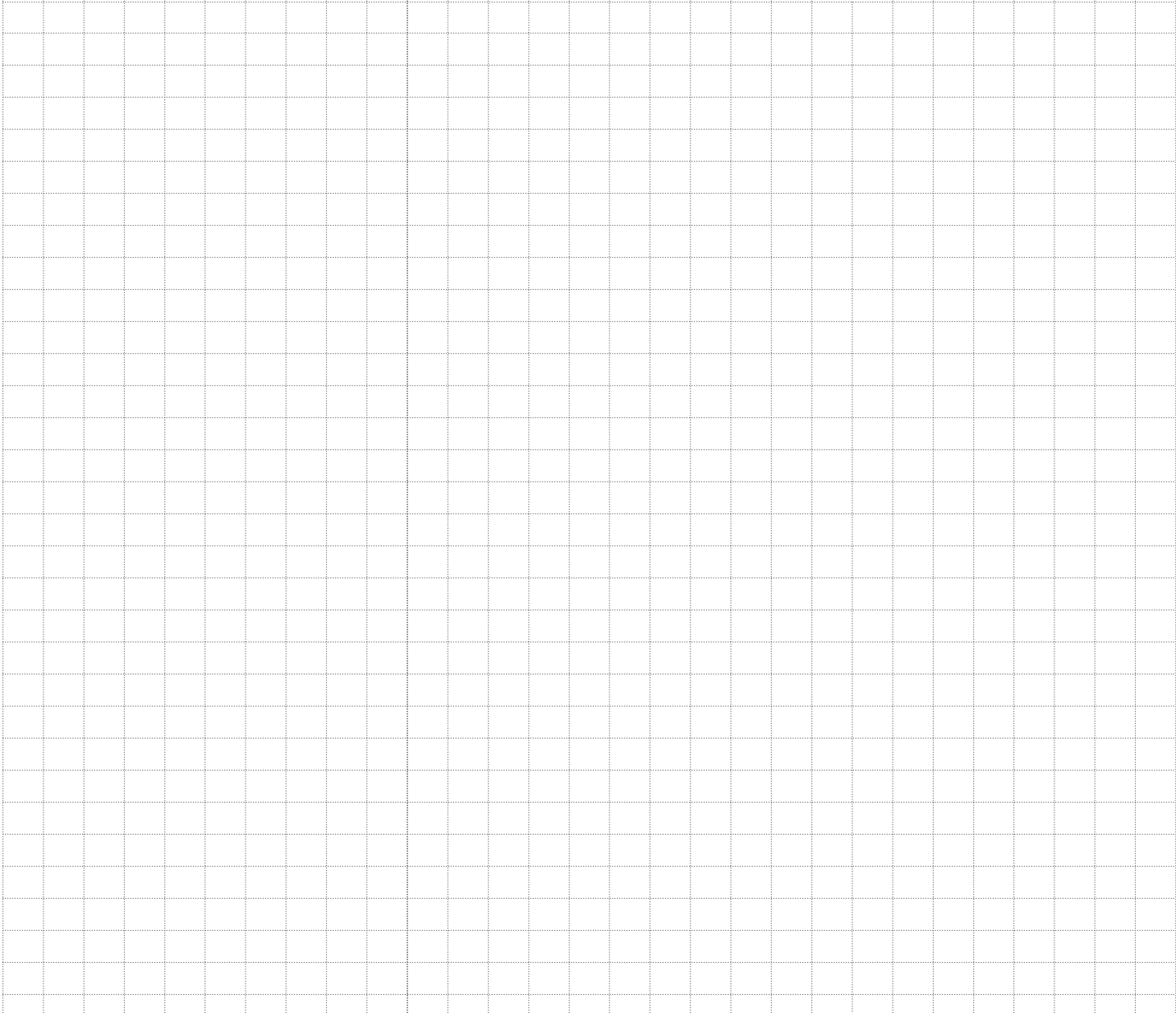




DECK PERMIT APPLICATION ONE & TWO FAMILY AND TOWNHOUSES

For decks accessory to or attached to 1 & 2 family dwellings and townhomes

Project Address		Property Owner's Name		Property Owner's Phone	
Applicant Name					
Applicant Address City, State, Zip		Applicant Fax or Email			
Applicant Phone					
Applicant is:		Owner <input type="checkbox"/>		Contractor <input type="checkbox"/>	
<p>The following information must be provided by the applicant. It must appear both on your plans and on this application. If an item is not applicable to your project, mark it N/A. Applications and plans with missing information are incomplete and will be returned to the applicant by mail, delaying the issuance of a permit.</p>					
Overall Dimensions of the Deck:			Decking Material Products other than wood must be approved by the Building Official. Evaluation Report by ICC required. Choose from the list in the packet.)		
Joist Size and Spacing x @ o.c.			Joist species and grade		
Beam Size(s) x			Beam species and grade		
<p><i>Where multiple 2x members are used for beam, the 2x's must be attached to each other and bear on the post and may not be attached to each side of the post.</i></p>					
Post Size <i>Min 4 x 4</i>			Cantilever Distance (joists <i>Joists Max 2 feet</i> overhanging beams, beams <i>Beam Max 1 foot</i> overhanging posts)		
<p><i>Ledger connection to house must be flashed.</i></p> <p>Minimum required depth to bottom of footings is 5'-0" (60"). USE THE CHART TO DETERMINE MINIMUM SIZES!</p> <p><i>Reinforce poured concrete pier column footings with (1) #4 rebar.</i></p>			<p>GUARDS All decks, balconies or porches, open sides of landings and stairs that are more than 30 inches above grade or a floor below must be protected by a guard not less than 36 inches in height. Grade is measured at edge of structure. 2006 IRC guard opening limitations states required guard on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4" or more in diameter, except the triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a sphere 6" cannot pass through and openings for required guards on the sides of stair treads shall not allow a sphere 4-3/8" to pass through.</p> <p>Show guard height and baluster spacing on plans.</p>		
Footing sizes Corner					
<i>Use chart</i> Intermediate					
Footing Thickness:					
Column (pier) size <i>Min 8" diameter</i>					
Height of deck floor above grade: <i>Max 10 ft without bracing</i>					
Stair Width <i>Min 36"</i>					
Riser Height <i>Max 7-3/4"</i>					
Tread Depth <i>Min 10"</i>					
Landing Size <i>Min 3' x Width of stair</i>					
Handrail Height <i>Between 34" and 38"</i>					
<p>Indicate what will be used as a GRIPPABLE HANDRAIL with a maximum cross sectional area of 2 5/8". NOTE: 2x dimensional lumber does not meet the requirement for grippability unless it is modified.</p>					
For Office Use					
Permit Specialist		Application Date		Comments	



North arrow required
Scale: 1"= feet

SITE PLAN

Grid is 4 squares per inch
DO NOT USE PENCIL

Site Address

Owner's Name

This site plan is an accurate and complete representation of the footprint(s) of all existing and proposed structure(s) and their location(s) on the subject property

Applicant's Signature

Legal Description

Required